

What is claimed is:

1. A current control device comprising:

(a) two electrodes;

5 (b) an electrically nonconductive isolator;

(c) at least one pressure plate electrically nonconductive and movable;

(d) at least one actuator, said actuator fixed at one end and attached at a second end to said pressure plate; and

(e) a pressure conduction composite, said pressure conduction composite and

10 said isolator disposed between said electrodes, said pressure conduction composite contacting said electrodes, said isolator, and said at least one pressure plate.

2. The current control device of claim 1, wherein said pressure conduction composite is porous.

3. The current control device of claim 1, wherein said actuator is comprised of a

15 piezoelectric material.

4. The circuit protect device of claim 1, wherein said actuator is comprised of a piezoceramic material.

5. The circuit protect device of claim 1, wherein said actuator is comprised of an electrostrictive material.

20 6. The current control device of claim 1, wherein said actuator is comprised of a magnetostrictive material.

22 7. The current control device of claim 1, wherein said actuator is comprised of a shape

1 memory alloy.

8. The current control device of claim 1, wherein said actuator is a piezo-controlled
pneumatic device.

9. A method for impregnating a pressure conduction composite with an additive
5 comprising the step of suffusing said pressure conduction composite within a bath of said
additive.

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